

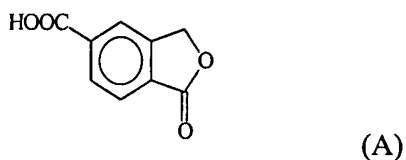
II. Amendments to the Claims

This listing of claims shall replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1-21. (Canceled)

22. (Currently Amended) A process for ~~the preparation of~~ synthesizing citalopram and its acid addition salts, comprising synthesizing 5-carboxyphthalide of formula A

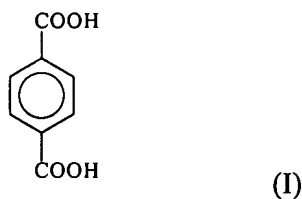


~~which comprises by:~~

~~reacting formaldehyde~~ 1,3,5-trioxane of formula II:



and terephthalic acid of formula I



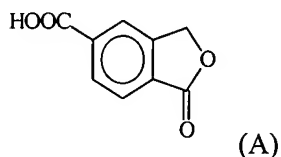
in fuming sulfuric acid containing at least 25-30% by weight of SO₃, heating the mixture at 120-135 145°C; and isolating the 5-carboxyphthalide thus obtained; and using the 5-carboxyphthalide thus obtained in a process to synthesize citalopram and its acid addition salts.

23. (Canceled)

24. (Canceled)

25. (Currently Amended) A process according to claim 22 ~~23~~, in which the 1,3,5-trioxane of formula II is used in an amount corresponding to 2.5-3.2 mol of formaldehyde/mol of the starting terephthalic acid.
26. (Original) A process according to claim 25, in which said 1,3,5-trioxane is added at a temperature of 30-35°C.
27. (Canceled)
28. (Previously presented) A process according to claim 22, in which the fuming sulfuric acid is used in an amount of 3-6 litres/Kg of terephthalic acid.
29. (Original) A process according to claim 28, in which fuming sulfuric acid is used in an amount of about 3 litres/Kg of terephthalic acid.
30. (Original) A process according to claim 22, in which 5-carboxyphthalide is isolated by neutralization of the reaction mixture with a base.
31. (Original) A process according to claim 22, in which 5-carboxyphthalide is isolated by diluting the reaction mixture with glacial acetic acid, then adding water and neutralizing with a base.
32. (Currently Amended) A process according to claim 30 ~~or 31~~, in which said base is an alkaline metal base.
33. (Original) A process according to claim 32, in which said alkaline metal base is sodium hydroxide, carbonate or bicarbonate.
34. (Original) A process according to claim 22, in which, at the end of the reaction, the 5-carboxyphthalide is isolated by the formation of a solution containing a salt thereof which is neutralized with an acid.
35. (Original) A process according to claim 34, in which said salt is the sodium salt.
36. (Original) A process according to claim 34, in which the salt is formed by adding the base to a pH of about 8.
37. (Original) A process according to claim 34, in which said acid is hydrochloric acid.

38. (Original) A process according to claim 22, in which 5-carboxyphthalide is isolated by treatment of the reaction mixture with water.
39. (Original) A process according to claim 38, in which the addition of water is made at 0-5°C and resulting exothermia is controlled by keeping the temperature at about 20-25°C.
40. (Original) A process according to claim 22, in which the mixture is heated at 130-135°C.
41. (Original) A process according to claim 22, in which formaldehyde is added to fuming sulfuric acid after the addition of terephthalic acid.
42. (Currently amended) A process for ~~the synthesis of~~ synthesizing citalopram, and its acid addition salts, comprising ~~a process for synthesis of~~ synthesizing 5-carboxyphthalide of formula A

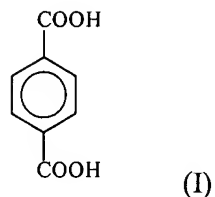


~~which comprises by:~~

~~reacting, in an open reactor, formaldehyde~~ 1,3,5-trioxane of formula II:



and terephthalic acid of formula I



in fuming sulfuric acid containing at least 25-30% by weight of SO₃;

heating the mixture at 120-145°C; and

isolating the 5-carboxyphthalide thus obtained;

and using the 5-carboxyphthalide thus obtained in a process to synthesize citalopram and its acid addition salts.

43. (Canceled)

44. (Canceled)

45. (Currently amended) A process ~~for the synthesis of citalopram, comprising the process for the synthesis of 5-carboxyphthalide~~ according to claim 43, in which the 1,3,5-trioxane of formula II is used in an amount corresponding to 2.5-3.2 mol of formaldehyde/mol of the starting terephthalic acid.

46. (Currently amended) A process ~~for the synthesis of citalopram, comprising the process for the synthesis of 5-carboxyphthalide~~ according to claim 45, in which said 1,3,5-trioxane is added at a temperature of 30-35°C.

47. (Canceled)

48. (Currently amended) A process ~~for the synthesis of citalopram, comprising the process for the synthesis of 5-carboxyphthalide~~ according to claim 42, in which the fuming sulfuric acid is used in an amount of 3-6 litres/Kg of terephthalic acid.

49. (Currently amended) A process ~~for the synthesis of citalopram, comprising the process for the synthesis of 5-carboxyphthalide~~ according to claim 48, in which fuming sulfuric acid is used in an amount of about 3 litres/Kg of terephthalic acid.

50. (Currently amended) A process ~~for the synthesis of citalopram, comprising the process for the synthesis of 5-carboxyphthalide~~ according to claim 42, in which 5-carboxyphthalide is isolated by neutralization of the reaction mixture with a base.

51. (Currently amended) A process ~~for the synthesis of citalopram, comprising the process for the synthesis of 5-carboxyphthalide~~ according to claim 42, in which 5-carboxyphthalide is isolated by diluting the reaction mixture with glacial acetic acid, then adding water and neutralizing with a base.

52. (Currently amended) A process ~~for the synthesis of citalopram, comprising the process the synthesis of 5-carboxyphthalide~~ according to claim 50 or 51, in which said base is an alkaline metal base.

53. (Currently amended) A process ~~for the synthesis of citalopram, comprising the process the synthesis of 5-carboxyphthalide~~ according to claim 52, in which said alkaline metal base is sodium hydroxide, carbonate or bicarbonate.

54. (Currently amended) A process ~~for the synthesis of citalopram, comprising the process for the synthesis of 5-carboxyphthalide~~ according to claim 42, in which, at the end of the reaction, the 5-carboxyphthalide is isolated by the formation of a solution containing a salt thereof which is neutralized with an acid.

55. (Currently amended) A process ~~for the synthesis of citalopram, comprising the process for the synthesis of 5-carboxyphthalide~~ according to claim 54, in which said salt is the sodium salt.

56. (Currently amended) A process ~~for the synthesis of citalopram, comprising the process the synthesis of 5-carboxyphthalide~~ according to claim 54, in which the salt is formed by adding the base to a pH of about 8.

57. (Currently amended) A process ~~for the synthesis of citalopram, comprising the process the synthesis of 5-carboxyphthalide~~ according to claim 54, in which said acid is hydrochloric acid.

58. (Currently amended) A process ~~for the synthesis of citalopram, comprising the process for the synthesis of 5-carboxyphthalide~~ according to claim 42, in which 5-carboxyphthalide is isolated by treatment of the reaction mixture with water.

59. (Currently amended) A process ~~for the synthesis of citalopram, comprising the process for the synthesis of 5-carboxyphthalide~~ according to claim 58, in which the addition of water is made at 0-5°C and the exothermia is controlled by keeping the temperature at about 20-25°C.

60. (Currently amended) A process ~~for the synthesis of citalopram, comprising the process for the synthesis of 5-carboxyphthalide~~ according to claim 42, in which the mixture is heated at 130-135°C.

61. (Currently amended) A process ~~for the synthesis of citalopram, comprising the process for the synthesis of 5-carboxyphthalide~~ according to claim 42, in which formaldehyde is added to fuming sulfuric acid after the addition of terephthalic acid.

62. (New) A process according to claim 22 wherein the reaction mixture of 1,3,5-trioxane, terephthalic acid and fuming sulfuric acid is heated to 120°C and then the temperature of the reaction mixture is allowed to increase by spontaneous exothermia up to 130 to 135°C.

63. (New) A process according to claim 22 wherein the reaction mixture of 1,3,5-trioxane, terephthalic acid and fuming sulfuric acid is heated to 130 to 135°C if spontaneous exothermia does not occur after the reaction mixture is heated to 120°C.

64. (New) A process according to claim 42 wherein the mixture is heated at 120-135°C.

65. (New) A process according to claim 42 wherein the reaction mixture of 1,3,5-trioxane, terephthalic acid and fuming sulfuric acid is heated to 120°C and then the temperature of the reaction mixture is allowed to increase by spontaneous exothermia up to 130 to 135°C.

66. (New) A process according to claim 42 wherein the reaction mixture of 1,3,5-trioxane, terephthalic acid and fuming sulfuric acid is heated to 130 to 135°C if spontaneous exothermia does not occur after the reaction mixture is heated to 120°C.

67. (New) A process according to claim 31, in which said base is an alkaline metal base.

68. (New) A process according to claim 67, in which said alkaline metal base is sodium hydroxide, carbonate or bicarbonate.

69. (New) A process according to claim 51, in which said base is an alkaline metal base.

70. (New) A process according to claim 69, in which said alkaline metal base is sodium hydroxide, carbonate or bicarbonate.